fluid they employ for injection is a kind of artificial aqueous humor; it contains in 1000 parts of water 6.89 of chloride of sodium, 0.113 of chloride of calcium, and 0.221 of sulphate of potassium. They believe that irrigation with antiseptic fluids has had its day. Practised with the syringe and fluid recommended by the authors the procedure is entirely harmless as regards the nutrition of the cornea or loss of vitreous, and is worthy of general adoption. There is a group of cataract operations which is largely benefited by intraocular irrigation and in which the practice should have a large place; these forms of cataract are the juvenile, soft, choroidal, traumatic, intumescent, etc.

OTOLOGY.

UNDER THE CHARGE OF

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Investigations on Accommodation.—GROSSMANN (*Brit. Med. Jour.*, Sept. 24, 1904) found the following changes during accommodation in a case of total aniridia duplex with good range of accommodation; they were communicated to the British Medical Association at its meeting in 1903: (1) the diameter of the lens equator becomes smaller; (2) the anteroposterior (axial) diameter of the lens increases; (3) the anterior pole of the lens moves forward (toward the cornea), the posterior pole of the lens moves backward; (4) by means of retinoscopy a ring-shaped shadow zone becomes visible between the centre and the equator of the lens, as an expression of the occurring refractive changes—of the formation of a lenti conus accommodativus; (5) the posterior surface of the lens also forms a lenti conus (shown by the reflex images); (6) the lens *in toto* moves upward and inward.

Besides this was noticed, though only at the height of eserinization, the appearance of the ciliary processes and their centripetal moving inward (toward the axis of the eye); and the tremor of the lens, first observed by Hess, was also seen very distinctly.

Observation No. 6, that the lens moves upward and inward during accommodation, seemed as unexpected as difficult to explain.

This movement more than counterbalanced the slight sinking of the lens due to gravitation. It cannot be proved entopically, because it is normally accompanied by a simultaneous and analogous movement of the contracting pupil, which is also dislocated upward and inward. A similar observation has been made this year in another case of congenital absence of the iris by Mr. Story, in Dublin.

Grossmann observed a case having a pronounced and symmetrical displacement of both pupils upward and inward. A line passing through the centre of the pupil and the centre of the iris deviates with its upper end 40 toward the nose in the right eye, and in the left 10. In the direction of these axes both pupils are slightly oval. Minus 1.75 cylinders with their axes coinciding with these directions are required to give full vision. (The left eye also required minus 3 spheres.) Tested for near vision during accommodation, the axis of the right cylinder had to be turned more horizontally by 17, and that of the left by 10 to give the best vision for near.

As the ophthalmometer showed the absence of all trace of corneal astigmatism, it followed that this resided in the lenses, both of which were suspended slightly eccentrically, which accounted for the astigmatism. During accommodation an additional movement of the lenses upward and inward took place; hence the change in the axis of the cylinder.

Movements like this obviously furnish an explanation of the temporary alteration of astigmatism during accommodation, an occurrence which has hitherto been explained by hypothetical partial contraction of the ciliary muscle.

A Suggestion for the Rapid Removal of Fine Ingrowing Eyelashes.—JOHNSON (*The Ophthalmoscope*, November, 1904) advocates melting a minute particle of cobblers' wax upon the blades of the epilation forceps to obviate slipping. Resin has been suggested as an improvement upon the wax.

A Few Expedients in Cataract Extraction.—MADDOX (*The Ophthalmoscope*, November, 1904) advocates suturing the conjunctival flap after extraction of cataract. Its advantages are: (1) speedier union; (2) protection from infection; (3) greater security from accident—*e. g.*, vomiting, sneezing, coughing, etc.; (4) smaller prolapses; (5) greater freedom for the patient; (6) fewer rejected cases; (7) open dressing facilitated.

Possible objections are: (1) their aid is small; (2) the danger of sepsis (none if properly placed); (3) the operation is prolonged; (4) astigmatic effect by dragging upon the corneal flap if not properly inserted.

Persistent antisepsis after extraction may be directed especially to the lacrymal sac by means of finely powdered boric acid (about a drachm), filling up the hollow between the eye and the root of the nose. The usual dressings are laid over this. The tears melt away a part of the powder, thus keeping the lacrymal sac constantly bathed in the solution. Boric acid has, it is true, small slaying power over microbes, but its retarding power is not to be despised—*e. g.*, meat may be kept for years by means of it without putrefaction. This procedure is not recommended in all cases, but only for those in whom it seems to be specially indicated. It may perhaps be possible to find a better antiseptic powder than the boric acid.

Heat and cold after discission for congenital cataracts and myopia. The indications may be put thus: a small pupil shortly after operation cries for ice. A dilated pupil with swelling lens, and especially if with rising tension, cries for heat. Maddox thinks that the knowledge of what can be done by cold and heat in their appropriate seasons removes the fear which dictates only a slight needling on the first occasion,